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First Named Inventor	Edlin Solomon
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  - [ ] Fee Attached
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  - [ ] Affidavits/declaration(s)
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- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Edlin Solomon
Signature	Edlin
Date	01.11.2004

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Examiner -- Joseph Nguyen
Applicant -- Edlin Solomon
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BIDIRECTIONAL BIPOLAR STATIC INDUCTION DEVICE

"between paragraph 0005 and 0007". This result is achieved by an impurity concentration near the gate is high enough.

"paragraph 0010". Though the structure of the transistor is symmetric the operating duty of the channel that is near the drain of the transistor essentially differs from the operating duty of the channel that is near its source. The electrical field reduces the concentration of holes in the former and increases their concentration in the latter. Owing to this, the hole concentration along an axis perpendicular to surface is trapezioidal in zero approximation. It puts certain restrictions both on the design parameters of BSIT and on designing of circuits in which these transistors are applied. Introduced in the structure the thick channel provides increasing of operating current (without latch). A threshold voltage of the thick channel is lower than that of the ordinary channel. Algorithm of control of the offered transistor (offered) under typical circumstances is more complicated than that of the transistor described above ([1]) [3]. Let potentials of the gates are equal to potentials of the source and drain accordingly. The electrons flowing to the drain electrode can cause emission of the holes from the gate, disposed near the drain. The holes flow to the gate, disposed near the source. Part of the holes flow into the channel and causes the flow of the electrons to the drain. So, there is a positive feedback in the device. Device is latched. On-voltage of the latched device is more than on-voltage of the open transistor. To preserve the feedback it is necessary to provide so that electrons might flow to the drain free. It depends both on a control circuit and on the construction of the transistor. The part of the control circuit is represented on fig.10 of the application. Electrons can (might) flow to the drain through open transistor 113 or 123. (In the simplest variant the thick channel drain electrode has been connected to the ordinary channel drain electrode with a conductor.) The construction of the transistor provides the way for electrons to the drain through the thick channel while transistor is closed or is being switched off. The potential of the thick channel drain electrode has to be positive or zero or little negative relative to the potential of the drain electrode of ordinary channel. The high drain voltage extracts electrons from the thick channel which is disposed near the source. The potential of the thick channel source electrode has to be positive so that the thick channel is closed.(It is allowed that the potential of the thick channel source electrode might equal zero, if the threshold voltages equal approximately 0.2 volt).
(To achieve optimum characteristics three rather than two different levels of voltages should be applied to the transistor gates. One of the voltages to the gate is about zero relatively to the nearby source, with the transistor channel closed, while the voltage applied to the gate near the drain should be about 0.4 V with the channel slightly open and the gate emit(ting) very low hole